

### ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage(Logic)	$V_{DD} - V_{SS}$	-0.3	7.0	V
Supply Voltage(LCD)	$V_{DD} - V_O$	-0.3	10.0	V
Input Voltage	$V_i$	-0.3	$V_{DD} + 0.3$	V
Operating Temp.	$T_{opr}$	-20	70	°C
Storage Temp.	$T_{stg}$	-30	80	°C

### MECHANICAL DATA

Item	Nominal Dimensions	Unit
Module Size ( W x H x T )	75.0 x 26.8 x 14.0	mm
Viewing Area ( W x H )	61.0 x 19.0	mm
Character Size ( W x H )	2.32 x 3.73	mm
Dot Size ( W x H )	0.44 x 0.44	mm
Weight	Approx. 28	g

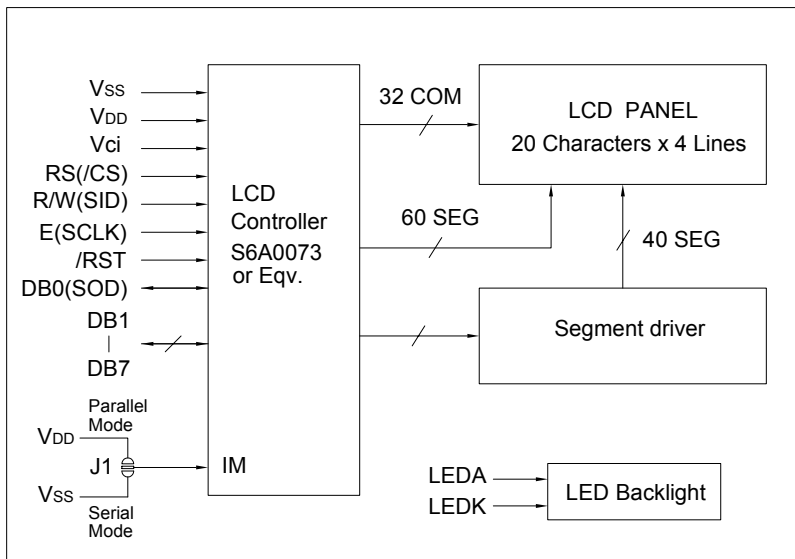
### ELECTRICAL CHARACTERISTICS ( $V_{DD}=5V \pm 0.25V$ )

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input High Voltage	$V_{IH}$	--	$0.7V_{DD}$	--	$V_{DD}$	V
Input Low Voltage	$V_{IL}$	--	-0.3	--	0.6	V
Output High Voltage	$V_{OH}$	$I_{OH} = -0.1mA$	$0.75V_{DD}$	--	$V_{DD}$	V
Output Low Voltage	$V_{OL}$	$I_{OL} = 0.1mA$	0	--	$0.2V_{DD}$	V
Supply Current	$I_{DD}$	$V_{DD} = 5.0V$	--	1.5	2.0	mA
LCD Driving Voltage	$V_{DD} - V_5$	$T_a = 25^\circ C$	--	8.0	--	V

### PIN CONNECTIONS

Pin	Symbol	Level	Function
1	$V_{SS}$	0V	GND
2	$V_{DD}$	3.3-5V	Power supply for logic
3	$V_{ci}$	--	Input voltage for contrast adjusting
4	RS (/CS)	H/L	H: Data, L: Instruction code (Chip selection in serial mode)
5	R/W (SID)	H/L	H: Read, L: Write (Data input in serial mode)
6	E(SCLK)	H,H>L	Enable signal (Serial clock input)
7	DB0(SOD)	H/L	In 8-bit bus mode, used as low order bidirectional data bus. In 4-bit bus mode, open these pins (SOD used as serial data output)
8	DB1	H/L	
9	DB2	H/L	
10	DB3	H/L	
11	DB4	H/L	In 8-bit bus mode, used as high order bidirectional data bus. In 4-bit bus mode, used as both high and low order data bus.
12	DB5	H/L	
13	DB6	H/L	
14	DB7	H/L	
15	NC	--	No connection
16	/RST	L	Reset signal. Active "L"
17	LEDA	+5V	Power supply for LED backlight
18	LEDK	0V	

### BLOCK DIAGRAM



### LED BACKLIGHT SPECIFICATIONS ( $T_a=25^\circ C$ )

Item	Symbol	Typ.	Max.	Unit
Forward Voltage	$V_f$	3.1	3.3	V
Forward Current	$I_f$	30	--	mA
LED Color		White		